

Summary of Activities and Results Obtained Within the Project During the 2024–2025 Period

Project code: 23.70105.5107.05

Project title: *Exploratory Analysis of Food Security in the Republic of Moldova Based on Nutritional Quality and Sustainability Metrics (CNuD) of Food Products*

The project aimed to develop and validate an integrated methodological framework for assessing the nutritional quality, economic accessibility, and sustainability of food products in the Republic of Moldova, adapted to national specificities and to the data constraints characteristic of Eastern Europe.

During the 2024–2025 period, a standardized primary dataset was constructed for approximately 1,500 packaged food products and over 120 bakery products, based on nutritional labels, technological recipes, and FAO/USDA food composition tables, with experimental verification performed on a representative sample. The analysis of the food supply structure highlighted a high share of processed and ultra-processed products, as well as specific characteristics of domestic products, providing the quantitative basis for subsequent analytical stages.

A set of nutrient reference values adapted to the population of the Republic of Moldova was established through the integration of FAOSTAT and WHO data and regional comparative analyses. Ecological panel models applied to Eastern Europe enabled the identification of dominant dietary patterns and the main determinants of obesity and overweight, providing the epidemiological foundation for the development of evaluation instruments.

Based on these results, the **Nutritional Quality Score (SCN)** was developed and validated as the first nutritional profiling instrument fully calibrated on Moldovan data. The **Healthy Food Basket (HFB)** for an adult in the Republic of Moldova was defined, aligned with reference values and local consumption patterns, enabling the assessment of differences between the minimum cost of food consumption and the cost of a nutritionally adequate diet. The eco-efficiency assessment of food products integrated nutritional and economic components and, where data were available, environmental impact indicators, leading to the exploratory development of the **Eco-Efficiency Index (IEEF)** as an extension of the SCN.

A central outcome of the project was the development of the internal CNuD data infrastructure, which integrates nutritional, economic, and food policy data into a unified structure with standardized metadata and full traceability. On this basis, the final procedural framework for CNuD evaluation at the product, food group, and food basket levels was elaborated, demonstrating the operational applicability of the methodology.

Dissemination activities exceeded the planned indicators: during 2024–2025, articles were published in Web of Science and Scopus indexed journals, national journals, conference volumes, and theses, as well as oral presentations at national and international scientific forums. The project results directly contributed to the training of highly qualified human resources, forming the scientific basis of a doctoral thesis currently in an advanced stage of development.

Through the results obtained, the project delivered the first integrated operational tools for assessing nutritional security in the Republic of Moldova, providing scientific support for public policies, social programs, and strategic planning in the field of food and population health.

Conducătorul de proiect:  / (Rodica SIMINIUC, DH., conf. univ.)
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